

REMARKS

Applicant thanks the Examiner for acknowledging Applicant's claim to foreign priority under 35 U.S.C. § 119(a)-(d), and for confirming that the certified copy of the priority document has been received at the Patent Office.

Drawings:

Applicant thanks the Examiner for indicating that the drawings filed with the present application have been approved.

Information Disclosure Statement:

Applicant thanks the Examiner for initialing and returning Form PTO/SB/08 A & B filed on August 16, 2004, thus indicating that all of the references listed thereon have been considered.

Claim Objections:

The Examiner has objected to claim 3 for a number of informalities. Applicant has amended claim 3 as shown in the previous section to address the Examiner's concerns. In view of these amendments, Applicant hereby requests the Examiner reconsider and withdraw the above objection to claim 3.

Claim Rejections:

Claims 1-5 are all of the claims pending in the present application, and currently all of the claims stand rejected.

35 U.S.C. § 102(b) Rejection - Claims 1-5:

Claims 1-5 stand rejected under 35 U.S.C. § 102(b) as being anticipated by European Reference No. EP 0 963 846 to Shimada. In view of the following discussion, Applicant respectfully traverses the above rejection.

Shimada discloses a number of embodiments, however Applicant submits that Shimada fails to disclose the claimed invention. Specifically, Shimada fails to disclose a relationship between a width x of a portion of the piezoelectric layer provided on a lower electrode, the portion of the piezoelectric layer being located directly facing the lower electrode and at the pressure generating chamber side, and a width y of the pressure generating chamber at the vibration plate side satisfying the relationship $0.75 \leq x/y \leq 1$. In Shimada, there is no express or implicit indication regarding this relationship, and in fact, in viewing the various Figures of Shimada, it is clear that this relationship is not taught.

For the purposes of the following discussion, Applicant will focus on the representative embodiments set forth in Figures 6A and 6B, of Shimada. These Figures show a piezoelectric layer 70 over a lower electrode 60, which are positioned above a pressure chamber 12, and although it appears that the overall width of the piezoelectric layer 70 may appear to approach the claimed relationship, it is clear that width of the piezoelectric layer 70 “above” the lower electrode 60 does not approach this limitation.

The claimed invention defines the variable “ x ” as a portion of the piezoelectric layer provided “on” the lower electrode, the portion of the piezoelectric layer being located “directly facing” the lower electrode and at the pressure generating chamber side. Thus, “ x ” is the portion of the piezoelectric layer which is directly above the lower electrode. It does not include the width of the portions of the piezoelectric layer 70, which extend beyond the lower electrode 60.

In rejecting the above claims, it appears that the Examiner is relying on the overall width of the piezoelectric layer 70 to argue that the claimed relationship is satisfied. However, this is not the claimed invention, and the overall width of the piezoelectric layer 70 is beyond the scope

of the variable “x” as set forth in the claims. In the claims “x” is only the portion of the piezoelectric layer which is directly above the lower electrode. Thus, when using the correct definition of “x” it is apparent from at least Figures 6A and 6B that the amount of the piezoelectric layer 70 that is directly above the lower electrode 60 is only about 50% of the width of the chamber 12.¹ Therefore, Shimada fails to disclose the claimed relationship of $0.75 \leq x/y \leq 1$.

There is no disclosure, in Shimada, regarding the width of the piezoelectric layer 70 directly above the lower electrode 60, nor is there any disclosure regarding the width of the piezoelectric layer 70 directly above the lower electrode 60 as compared to the width of the chamber 12.

In view of the foregoing, Applicant submits that Shimada fails to disclose each and every element of the claimed invention, in particular the claimed etching adjustment layer. Therefore, Shimada fails to anticipate the claimed invention, as required under the provisions of 35 U.S.C. § 102(b). Accordingly, Applicant hereby requests the Examiner reconsider and withdraw the 35 U.S.C. § 102(b) rejection of the above claims.

Conclusion:

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

¹ Applicant notes that this estimation is merely based on the depictions in the figures, as there is no express teaching or disclosure, of any kind, regarding this relationship in Shimada.

AMENDMENT UNDER 37 C.F.R. §1.111
Application Number 10/632,113

Our Ref: Q76707
Art Unit: 2853

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

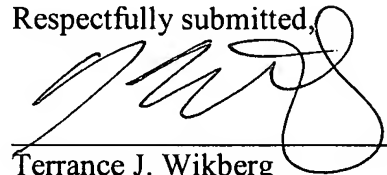
SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

23373

CUSTOMER NUMBER

Respectfully submitted,



Terrance J. Wikberg
Registration No. 47,177

Date: April 20, 2005